**WE CLAIM:**

1. A camera, comprising:

an image sensor including pixels for capturing an image having two or more region of interest segments and producing image data corresponding to the image;

a memory storing a map identifying selected ones of the pixels located in the region of interest segments within the image; and

an access controller configured to retrieve the image data associated with the selected pixels in response to the map.

2. The camera of Claim 1, further comprising:

an additional memory for storing the image data corresponding to the image, said access controller being configured to access said additional memory to retrieve the image data associated with the selected pixels.

3. The camera of Claim 1, wherein the plurality of pixels are arranged in rows and columns within a pixel array.

4. The camera of Claim 3, wherein said selected pixels are located in one or more selected ones of the rows of the pixels within said pixel array, said access controller being configured to read the image data associated with the selected rows out of said image sensor row-by-row.

5. The camera of Claim 4, wherein said image sensor is a complementary metal oxide semiconductor image sensor.

6. The camera of Claim 4, wherein said image sensor is a charge coupled device image sensor.

7. The camera of Claim 3, wherein said selected pixels correspond to individual ones of the pixels within the pixel array, said access controller being configured to read the image data associated with the selected pixels out of the image sensor pixel-by-pixel.

8. The camera of Claim 7, wherein said access controller is further configured to calculate a reset time for each of the rows based on the map to provide a substantially uniform row exposure period throughout the pixel array.

9. The camera of Claim 7, wherein said image sensor is a complementary metal oxide semiconductor image sensor.

10. The camera of Claim 7, wherein said image sensor is a charge coupled device image sensor utilizing a global shutter.

11. The camera of Claim 3, wherein the map includes coordinates of the selected pixels within the pixel array.

12. The camera of Claim 3, wherein the map is a bit-wise map of the pixel array.

13. The camera of Claim 3, wherein the map is a reduced resolution bit-wise map of the pixel array.

14. The camera of Claim 3, wherein the region of interest segments correspond to blocks of pixels each having four corner pixels and the map includes coordinates of two of the corner pixels for each of the blocks of pixels.

15. The camera of Claim 3, wherein the region of interest segments correspond to blocks of pixels each having four corner pixels and the map includes coordinates of one of the corner pixels for each of the blocks of pixels and dimensions of each of the blocks of pixels.

16. The camera of Claim 3, wherein the region of interest segments correspond to blocks of pixels each having four reduced resolution corner pixels and the map includes coordinates of two of the reduced resolution corner pixels for each of the blocks of pixels.

17. An optical inspection system, comprising:

a camera including an image sensor for capturing an image of a target surface having two or more region of interest segments within the field-of-view of the camera and producing image data corresponding to the image; and

an image processing system connected to the camera to receive and process only the image data associated with the region of interest segments.

18. The optical inspection system of Claim 17, wherein said camera further includes:

an image sensor including pixels for capturing the image and producing the image data corresponding to the image;

a memory storing a map identifying selected ones of the pixels located in the region of interest segments within the image; and

an access controller configured to retrieve the image data associated with the selected pixels in response to the map.

19. A method for imaging region of interest segments on a target surface, comprising:

capturing an image containing pixels;

storing a map identifying selected ones of the pixels located in region of interest segments within the image; and

retrieving image data corresponding to the image and associated with the selected pixels using the map.

20. The method of Claim 19, wherein said retrieving further comprises:

storing the image data corresponding to the image; and

accessing the image data associated with the selected pixels.

21. The method of Claim 19, wherein said retrieving further comprises:

reading the image data associated with the selected pixels row-by-row.

22. The method of Claim 19, wherein said retrieving further comprises:

reading the image data associated with the selected pixels pixel-by-pixel.

23. The method of Claim 22, further comprising:

calculating a reset time for each row of the plurality of pixels based on the map.

24. The method of Claim 19, further comprising:

loading the map into a memory.

25. The method of Claim 19, further comprising:

transmitting the image data associated with the selected pixels.